

silvery-white fascia below costa; a silvery-white fascia from base along median nervure to middle of cell, then curved upwards to apex towards which it becomes maculate; a series of silvery-white marks in interspaces of terminal area, reduced to small spots towards apex and becoming elongate streaks between veins 5 and 1, the streaks above veins 4 and 3 sometimes confluent with the white fascia. Hind wing fulvous yellow.

*Hab.* NATAL, Howick (*Cregoe*), 2 ♂ type; BASUTOLAND, Pithaneng Valley (*Crawshay*), 1 ♂. *Exp.* 24 mm.

Allied to *D. ibex*, Willgrn.

*Dalaca hololeuca*, sp. n.

Head, thorax, and abdomen white slightly mixed with brown; antennæ fulvous; sides of frons and legs brown. Fore wing white with a very faint ochreous-brown tinge, the veins whiter, the costal edge brown. Hind wing white with a very faint ochreous-brown tinge. Underside of both wings suffused with pale brown.

Ab. 1. Fore and hind wings more strongly tinged with brown.

*Hab.* TRANSVAAL (*Pead, Cholmley*), 2 ♀; NATAL, Estcourt (*Hutchinson*), 2 ♂ type; ORANGE R. COLONY, Bethlehem (*Arnold*), 1 ♂. *Exp.*, ♂ 34, ♀ 34-40 mm.

XVI.—*Descriptions and Records of Bees.*—XXXI.

By T. D. A. COCKERELL, University of Colorado.

*Prosopis xanthaspis*, sp. n.

♀.—Length about 7 mm.

Head and thorax black, abdomen black with a faint blue tinge; head entirely black, face finely striatulate, front and vertex punctured; flagellum dull ferruginous beneath; mesothorax finely but distinctly punctured; tubercles broadly, scutellum (except anterior margin), postscutellum, and sometimes axillar triangle all bright chrome-yellow, no other yellow about the insect; legs black; area of metathorax roughened basally. Wings clear, the recurrent nervures meeting the transverso-cubitals, or nearly. Abdomen dull at base, more shining beyond. Runs in table of Australian *Prosopis* to 43, and runs out because of the lack of yellow on pleura; if placed among the metallic species, runs to 14, and runs out because the face is without light markings.

*Hab.* Mackay, Queensland (*Turner*). British Museum.

Two are from flowers of *Cassia*, Dec. 1899. Four are from *Eucalyptus* flowers, also Dec. 1899. Two were collected March 1900.

*Prosopis nubilosella*, sp. n.

♀.—Length about 7 mm.

Superficially like *P. xanthaspis*, with which I had confused it, but easily distinguished by the following characters:—Face not entirely black, but with three minute yellow marks, a narrow cuneiform one on clypeus, and a short line along each orbital margin at sides of front. Wings considerably larger and longer, with the apical field distinctly dusky; second submarginal cell considerably larger and longer, receiving the recurrent nervures some distance from its base and apex. Abdomen pure black, distinctly punctured, with the apical part more hairy. In the table of *Prosopis* it runs to 43 if the minute face-markings are overlooked; otherwise it runs to *P. nubilosa*, Smith, to which it is evidently closely related, differing in the smaller size, rounder head, larger punctures of mesothorax, &c.

*Hab.* Mackay, Queensland, May 1900 (*Turner*, 692). British Museum.

Another was taken April 1899, at flowers of *Xanthorrhæa*.

*Prosopis nubilosa subnubilosa*, Ckll.

This subspecies was described from the female. The male is smaller (size and appearance of ♀ *nubilosella*), with a narrower face, the clypeus creamy-white except a narrow cuneiform black mark on each side, the scape with a white mark in front, and the upper border of prothorax with a very fine interrupted yellow line. This is nearly the same as *P. aureomaculata*, Ckll., differing by the absence of a supra-clypeal mark and in the venation. The second submarginal cell receives the recurrent nervures some distance from apex and base.

*Hab.* Mackay, Queensland, at flowers of *Leptospermum*, Aug. 1900 (*Turner*). British Museum.

*Prosopis bicuneata*, sp. n.

♀.—Length nearly 6 mm.

Black, the abdomen faintly bluish; face-markings consisting of broad-cuneate bright lemon-yellow lateral marks, filling the space between clypeus and eyes, pointed below, rather obliquely truncate above; clypeus finely striatulate,

not evidently punctured; flagellum reddish brown beneath; mesothorax very finely punctured; tubercles, scutellum, axillæ, and postscutellum bright chrome-yellow; area of metathorax roughened basally; legs black, anterior tibiæ reddish basally in front, and with a small cream-coloured streak, hind tibiæ with a subbasal cream-coloured spot. Wings hyaline, scarcely dusky, recurrent nervures meeting transverso-cubitals. Except for the faint bluish tint of abdomen, this runs in the table to *P. frederici*\*. According to Smith, *frederici* has the abdomen "obscurely tinged with blue," but it is so faint that I overlooked it when examining the type. *P. frederici* is, however, larger, and has the abdomen "covered with a changeable white pile, observable in certain lights." Run among the metallic species, *P. bicuneata* goes to 19, and runs out because of the very fine sculpture, combined with cuneate face-marks.

*Hab.* Mackay, Queensland, March 1900 (*Turner*).

Superficially the insect is like *P. xanthaspis*.

#### *Prosopis rollei*, Ckll.

In the Turner collection are two females and three males from Victoria (*C. F.*). The females are *P. elegans*, Sm., agreeing with a specimen from Adelaide, the type locality, though the abdomen is much more clouded with black than Smith describes. The males are *P. rollei*, Ckll., described from Ararat, Victoria. Smith describes the male of *P. elegans* as having the postscutellum black, and the abdomen "having only the two basal segments and a line down their centre black"; but this statement about the abdomen is erroneous, and was evidently meant to read "only the two basal segments red, a line" &c. *P. sydneyana*, Ckll., which I determined as *elegans* by comparison of types, represents a variety with the postscutellum yellow.

*P. rollei* is readily separable from *elegans* in the male, but it may be that females at present ascribed to *elegans* belong in part to *rollei*.

#### *Prosopis coronata*, Ckll.

This was described from the male. Turner's 871 (Mackay, Nov. 1893) appears to be its female. It is about 6 mm. long, more robust than the male, but with the same finely punctured mesothorax, red abdomen, &c. The clypeus, labrum, and mandibles are red, and there are narrow, almost linear,

\* *Ann. & Mag. Nat. Hist.*, Feb. 1910, p. 140, line 4, dele "not," and read "Lateral face-marks ending" &c.

lateral face-marks running along the orbits and ending a little below level of antennæ. Antennæ entirely bright ferruginous, short, the flagellum thick, its middle joints much wider than long; knees, tibiæ, and tarsi red, the middle tibiæ with a blackish cloud on outer side; area of metathorax coarsely irregularly cancellate; thorax without light markings. In the table this runs straight to *P. subplabeia* male.

*Prosopis philoleuca*, sp. n.

♀.—Length about 4 mm.

A short robust species like *P. amiculiformis*, but smaller, and with the light markings all white—namely, broad-triangular lateral face-marks (ending in a point on orbit a little above antennæ, the upper inner side of the triangle a little longer than the lower inner), tubercles, a narrow interrupted line on upper border of prothorax, and a basal spot on each tibia, that on hind tibia involving the basal two-fifths; flagellum thick, ferruginous beneath; front and mesothorax extremely minutely punctured; area of metathorax shining, sculptured at extreme base; tegulæ very dark brown. Wings clear; second submarginal cell receiving both recurrent nervures. Abdomen subglobose. Runs in the table to 35, and runs out because clypeus is black and face-marks are white.

*Hab.* Mackay, Queensland, May 1900 (*Turner*). British Museum.

*Prosopis nigrifrons*, Smith, var. *a*.

♀.—Length fully 10 mm.

Front closely punctured but shining; area of metathorax elevated, granular, not strigose; first r. u. joining second s.m. more than a third from base, the distance being equal to about four-fifths length of first t.-c.; margins of abdominal segments black.

*Hab.* Victoria (*C. F.*). *Turner* Collection, British Museum.

*Prosopis itamuca*, sp. n.

♀.—Length about 10 mm.

In nearly all respects agreeing with *P. nigrifrons*, var. *a* (a noteworthy little feature common to both is a red spot at the base of the scape), but differing thus: light markings of thorax (tubercles, large patch behind, scutellum, and post-scutellum) brilliant chrome-yellow or orange (lemon-yellow

in *nigrifrons*, var. *a*). Wings darker and especially much redder; first r. n. joining second s. m. much nearer base, the distance being hardly half length of first t. c., and very much less than a third length of s. m.; area of metathorax longitudinally strigose.

*Hab.* N. W. Australia (*C. F.*). Turner Collection, British Museum.

*C. F.* is doubtless Charles French, of Melbourne.

*Prosopis aposuara*, sp. n.

♂.—Length 7 mm.

Head and thorax black, closely and minutely punctured; abdomen dark purplish; head and face ordinary, the latter entirely light yellow below the antennæ, except the very narrow lower edge of clypeus, but labrum and mandibles black; lateral marks broadly truncate above at level of antennæ, the edge of the truncation irregular; supraclypeal mark long and narrow, with about half its length above the general level of the facial yellow, its upper end truncate but deeply notched in the middle; scape with a yellow stripe; flagellum dark above, ferruginous beneath; upper border of prothorax with a feeble interrupted yellow line; tubercles, scutellum, and postscutellum bright chrome-yellow; area of metathorax longitudinally wrinkled, and with a strong transverse ridge near the base; tegulæ reddish brown. Wings a little dusky toward apex; second s. m. long; first r. n. meeting first t. c. Legs obscure reddish, anterior and middle tibiæ testaceous in front. Abdomen finely punctured. In the table this runs to *P. purpurata*, from which it is readily known by the pale yellow face and black mandibles, as well as the colour of the legs. To the same place runs *P. lubbocki*, but this is separated by the colour of the legs, and especially the black hair on the apical part of the abdomen beneath, this place in *P. aposuara* having exceedingly fine wholly pale hair. It may also be compared with *P. chrysocephala*, but that has the face bright yellow, the legs with much yellow, and the abdomen not purplish. The absence of a constriction between the first and second dorsal abdominal segments at once separates it from *P. elongata*.

*Hab.* Mackay, Queensland, at flowers of *Xanthorrhœa*, April 1899 (*Turner*). British Museum.

This is the male of Turner's 1047; the females labelled with the same number (Mackay, two May 1900, one Oct. 1899, at flowers of *Eugenia*) agree with *P. retundiceps*, Smith, so far as I can make out. They have the same transverse

keel on the base of the metathorax as the male, but the mesothorax is more coarsely punctured, and they are of course larger and more robust. There is no supraclypeal mark. I should have referred both sexes of 1047 to *rotundiceps*, had I not seen both sexes of *rotundiceps*, with a quite different male, from New South Wales. The type locality of *rotundiceps* is Melbourne, and it was to be expected that the Mackay insect would differ. The Mackay females were not taken with the male, and may not belong to it; their status must for the present remain somewhat doubtful.

*Prosopis chrysognatha*, Ckll.

♀.—Sydney, New South Wales, Nov. 1905 (Turner).  
British Museum.

This agrees with Smith's description of *P. simillima*, except that the first r. n. practically meets the first t.-c. The male of *chrysognatha* is readily separated from *simillima*.

*Prosopis cyaneomicans*, sp. n.

♀.—Length about 6 mm.

Slender, head and thorax black, abdomen brilliant shining blue; head ordinary, but wholly without pale markings; clypeus striatulate and punctured; front shining, well punctured; flagellum light ferruginous beneath, dusky ferruginous above; mesothorax and scutellum shining, with strong well-separated punctures; metathorax large and prominent, the basal area transversely striate; tubercles with a white spot, but thorax with no other light markings; tegulæ shining picceous. Wings clear; nervures and stigma dark reddish brown, first r. n. meeting first t. c. Legs black, hind tibiæ white at extreme base. Abdomen little sculptured, the basal segment especially smooth and shining, apical part with black hair. In the table this runs to 12, and falls nearest to *P. cyanophila*, differing greatly by the shining and brilliantly coloured abdomen. It is not unlikely that when the male is discovered it will be seen to be a *Meroglossa*.

*Hab.* Mackay, Queensland, at flowers of *Cassia*, Dec. 1899; also at flowers of *Rosa*, 1900, and one Jan. 1901 (Turner 710). British Museum.

*Prosopis cenibera*, sp. n. (*lateralis*, subsp.?).

♀.—Appearance of *P. lateralis*, Smith, for which I had taken it, but it differs in the form of the metathorax, the area being well defined and boat-shaped, its surface dull with a

few indistinct raised lines; other differences are, hind tibiæ cream-coloured at base, creamy-white lateral face-marks linear. The metathorax may be all red at sides or only red-spotted. This is perhaps only a subspecies of *P. lateralis*.

*Hab.* Mackay, Queensland, at flowers of *Xanthorrhœa* April 1899 (*Turner*, 856). British Museum. Another, collected Nov. 1893, bears the number 858.

There are two small cream-coloured marks on upper border of prothorax. A variety (*Turner*, 858, Nov. 1893) is larger and more robust (about 6 mm. long), with the stigma honey-colour and the metathorax red except the enclosure. The lateral face-marks are broader, as in *lateralis*.

*Prosopis euwantha*, n. n.

*Prosopis xanthopoda*, Ckll. Ann. & Mag. N. II., July 1910, p. 28 (not of Vachal, 1895).

*Pachyprosopis mirabilis*, Perkins.

♀.—Mackay, Queensland (*Turner*, 868). March and May 1900; one is from flowers of *Eucalyptus*. The mesothorax and scutellum vary from dark green to dark purple.

*Pachyprosopis plebeia*, sp. n.

♀.—Length  $6\frac{1}{2}$ –7 mm.

General build and appearance much as in *P. mirabilis*, but the head, while thick, is not in any way extraordinary, being as in *Euryglossa*. Head black, face broad; labrum and mandibles (except apex) dark red; clypeus with distinct well-separated punctures, front minutely punctured; linear facial foveæ curving above and running to lateral ocelli; scape light orange; flagellum thick, entirely clear ferruginous; thorax black, with the very minutely punctured mesothorax tile-red, sometimes clouded with black at sides; scutellum with minute punctures on a shining ground, its anterior border sometimes red, area of metathorax not noticeably sculptured, sides of metathorax with conspicuous white hair; tegulæ very dark brown. Wings clear, nervures and stigma yellowish brown; venation as in *P. mirabilis*, but the second s.m. is not so narrow, and the basal nervure is more arched. Femora black, ferruginous at apex; tibiæ and tarsi clear ferruginous, the anterior tibiæ more or less yellow in front. Abdomen red, a shade darker than in *P. mirabilis*, the first segment sometimes blackened basally, when two small orange spots appear upon the black.

*Hab.* Mackay, Queensland, Nov. 1893 and Jan. 1901 (*Turner*, 857). British Museum.

*Pachyprosopis doddi*, sp. n.

♀.—Length about 6 mm.

Very close to *P. plebeia*, with the same red mesothorax, the same venation, &c., but differing thus: scape ferruginous like the flagellum; scutellum red; anterior tibiæ not yellow in front; first abdominal segment dark, except the apical sides broadly, but no light spots; red of abdomen duller.

*Hab.* Townsville, Queensland, 2. 1. 03 (*F. P. Dodd*).  
British Museum.

The new species of *Pachyprosopis* indicate that the genus is essentially like *Euryglossa*, differing, however, in the shape of the submarginal cell.

*Pachyprosopis semisericea* (Ckll.).

*Stilpnosoma semisericeum*, Ckll., 1905, is better placed in this genus.

*Euryglossa rubricata*, Smith, and allies.

I formerly recorded Turner's 859 as *E. rubricata*, but it now appears that there are three species of the *rubricata* type, separable thus:—

- Mesothorax finely rugose in front, posteriorly with strong rather close punctures; scape red; scutellum red, but axillæ, postscutellum (which is rugose), and metathorax black; last two segments of abdomen black. (Mackay, Queensland, at flowers of *Leptospermum*, Oct. 1898, Turner, 859, ♀.) ..... *E. leptospermi*, sp. n.
- Mesothorax and scutellum shining, with fine scattered punctures ..... 1.
1. Apex of abdomen red, like the part before; antennæ very dark fuscous, the flagellum beneath largely pale yellowish ferruginous; axillæ and postscutellum red. (Victoria, C. F.; Turner collection.) ..... *E. frenchii*, sp. n.
- Apex of abdomen blue-black; antennæ ferruginous; the flagellum fuscous above. (Swan River.) ..... *E. rubricata*, Smith.

The types of the new species are in the British Museum.

Other characters are:—

*E. leptospermi*.—Clypeus well punctured; knees, tibiæ, and tarsi ferruginous; hind spur strongly dentate.

*E. frenchii*.—Clypeus and supra-clypeal area smooth, hardly punctured, the suture between them broadly suffused with dark reddish; anterior tibiæ blackish on outer side; hind femora red beneath.

*Euryglossa chrysoceras*, Ckll., and *E. subsericea*, Ckll.

A male *E. chrysoceras* comes from The Ridges, Mackay, Queensland, at flowers of *Leptospermum*, Oct. 1898 (Turner, 702). British Museum. At the same flowers were taken females of *E. subsericea*, Ckll., and these also bear the number 702, being evidently considered conspecific with *chrysoceras*. The two insects are so different that it seems improbable that they can be sexes of one, and, moreover, I believe the true male of *E. subsericea* to be Turner's 1a, taken in some numbers at flowers of *Leptospermum*, at the same locality, Sept. and Oct. 1898. This insect has every appearance of *E. subsericea*, except for the usual sexual differences and the fact that the head and thorax are dark green instead of black. A very characteristic feature, seen in both sexes, is the dull minutely sculptured front, abruptly contrasting with the shining strongly punctured vertex. The abdomen of the male is shining, in the female it is dull. The venation varies, the first r. n. sometimes squarely meeting the first t.-c. The male (Turner's 1a) is the insect mentioned by Baker ('Invertebrata Pacifica,' May 1906, p. 141) as *Stilpnosoma turneri*. Prof. Baker has kindly sent me his specimen, which proves to be from Mackay, Sept. 1898, collected by Turner, the name *S. turneri* being a manuscript one by Friese.

XVII.—*Descriptions of some new Species of Heterocera from East and West Africa and Tropical South America.* By HERBERT DRUCE, F.L.S. &c.

## Fam. Agaristidæ.

*Copidryas peruviana*, sp. n.

*Male*.—Head, collar, tegulæ, and thorax brown, thickly irrorated with grey hairs; antennæ and palpi black; abdomen yellow, with a black tuft of hairs at the base, the underside greyish yellow, the legs yellow. Primaries pale brown, thickly irrorated with white and greenish-coloured scales; two zigzag black lines cross the wing beyond the cell from the costal to the inner margin; a small brown spot in the cell; the inner margin brown from the base to the anal angle; the fringe alternately brown and white: secondaries chrome-yellow, bordered with black from the apex almost to the anal angle;